

# MAPPING & MONITORING MARYLAND STREAMS

## A TEACHER PROFESSIONAL DEVELOPMENT PROJECT USING GIS & SCIENTIFIC DATASETS

Mapping and Monitoring Maryland Streams (MAMMS) is a **teacher professional development** project that will help you guide students through locally-relevant stream investigations using real-world data and Geographic Information System (GIS)—a computer mapping and visualization tool that can extend the classroom experience and promote student understanding of science and technology. Guided by GIS and science education specialists, you will learn to use GIS and global positioning system (GPS), customize GIS watershed/stream lessons for your curriculum, and apply them in your classroom.

### WHAT WILL TEACHER PARTICIPANTS RECEIVE?

- GIS lessons focused on Maryland watersheds and streams
- GIS software license, GPS unit, and stream sampling kits
- \$600 stipend plus lodging/meals for the weeklong workshop
- 2 MSDE or graduate credits (stipend may be applied towards tuition)

### WHEN AND WHERE IS THE MAMMS PROJECT?

1-day spring workshop	Harford Glen, Bel Air MD	May 14 2005
On-line activities (12 hours)	Your school/home	June 2005
5-day summer workshop	Harford Glen, Bel Air MD	June 27 – July 1 2005
Refine and implement lesson	Your school	September 2005 – May 2006

### WHO SHOULD APPLY?

The MAMMS project targets **7<sup>th</sup> - 12<sup>th</sup> grade science and technology teachers in Maryland** interested and able to use innovative technology and watershed/stream investigations in their classrooms. Participants should have basic computer experience and access to multiple school computers and the Internet (at home or school). Teachers from the same schools are encouraged to apply.

### INTERESTED? HAVE QUESTIONS?

Applications and more information are available at <http://alese.al.umces.edu> or by contacting Cat Styliniski at [cat@al.umces.edu](mailto:cat@al.umces.edu) or 301.689.7272.

### APPLICATIONS DUE MARCH 15 2005

---

AN ALESE PROGRAM IN COLLABORATION WITH THE MARYLAND DEPARTMENT OF NATURAL RESOURCES  
AND FUNDED BY NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION.



# MAPPING & MONITORING MARYLAND STREAMS (MAMMS) TEACHER APPLICATION

**DUE MARCH 15 2005**

TEACHER APPLICANTS WILL BE NOTIFIED BY MARCH 30 2005

MAIL OR FAX APPLICATION TO:  
MAMMS Application, c/o UMCES-AL  
301 Braddock Road  
Frostburg MD, 21532  
Fax: 301.689.7272

How did you first learn about the MAMMS Project (check one)?

<input type="checkbox"/>	Presentation	<input type="checkbox"/>	Email	<input type="checkbox"/>	Word of mouth	<input type="checkbox"/>	Flyer	<input type="checkbox"/>	Website
--------------------------	--------------	--------------------------	-------	--------------------------	---------------	--------------------------	-------	--------------------------	---------

Name: \_\_\_\_\_

Home address: \_\_\_\_\_

Home phone: (\_\_\_\_\_) \_\_\_\_\_

Home email: \_\_\_\_\_

School Name: \_\_\_\_\_

School Address: \_\_\_\_\_

School Phone: (\_\_\_\_\_) \_\_\_\_\_

School Email: \_\_\_\_\_

Principal's name: \_\_\_\_\_

County Supervisor name: \_\_\_\_\_

What is the best method for contacting you (check one)?

<input type="checkbox"/>	Home email	<input type="checkbox"/>	School email	<input type="checkbox"/>	Home phone	<input type="checkbox"/>	School phone
--------------------------	------------	--------------------------	--------------	--------------------------	------------	--------------------------	--------------

If by phone, please include the best times to reach you. \_\_\_\_\_

Undergraduate Institution: \_\_\_\_\_

City/State: \_\_\_\_\_

Undergrad major & degree: \_\_\_\_\_

Graduate Institution: \_\_\_\_\_

City/State: \_\_\_\_\_

Grad major & degree: \_\_\_\_\_

## SCIENCE TEACHING

What course(s) *and* grade level(s) are you currently teaching? \_\_\_\_\_

\_\_\_\_\_

What course(s) *and* grade level(s) have you taught in the past? \_\_\_\_\_

\_\_\_\_\_

Total years teaching: \_\_\_\_\_

Approximately how many students do you teach each year? \_\_\_\_\_

Approximately how often do you use the following in your teaching?

	Daily	Once a week	Once a month	Once a year	Never
Internet					
CD-ROMs, DVDs					
Spreadsheets					
Probeware					
Maps					
Textbooks					
Lab equipment					
Supplemental curriculum					
Activities that you created					
Computers in your classroom or computer room					

Rate your experience in the following areas:

	None	Some	Competent	Skilled
Participating in Internet course				
Using Geographic Information Systems (GIS) software				
Using ArcView GIS				
Using GIS to teach science or other topics				
Using a Global Positioning System (GPS) unit				
Downloading data from the Internet				
Guiding student research projects				
Guiding student stream investigations				
Conducting scientific or education research				

## TECHNOLOGY RESOURCES AND ACCESS

For the MAMMS Project, you and your students will need access to adequate computer facilities for GIS investigations, and you will need regular access to the Internet with a home or school computer for the online activities.

	Macs	PCs	How many connected to the Internet?
How many computers in your classroom?			
How many computers in a computer lab?			

What type of Internet connection do you have at school?

<input type="checkbox"/>	Dial-up modem	<input type="checkbox"/>	Cable modem	<input type="checkbox"/>	DSL	<input type="checkbox"/>	ISDN	<input type="checkbox"/>	T1 line
--------------------------	---------------	--------------------------	-------------	--------------------------	-----	--------------------------	------	--------------------------	---------

What type of computer (Mac or PC) will you use for online activities? \_\_\_\_\_

What type of Internet connection does this computer have?

<input type="checkbox"/>	Dial-up modem	<input type="checkbox"/>	Cable modem	<input type="checkbox"/>	DSL	<input type="checkbox"/>	ISDN	<input type="checkbox"/>	T1 line
--------------------------	---------------	--------------------------	-------------	--------------------------	-----	--------------------------	------	--------------------------	---------

List software programs that you have experienced with (e.g., Word, Excel). \_\_\_\_\_

\_\_\_\_\_

Does your school have a license for ArcView GIS? \_\_\_\_\_

## SHORT ANSWERS (ON SEPARATE PAPER)

1. Write one paragraph describing a science education workshop or course that you thought was particularly useful. Include how and why it influenced your teaching.
2. Write one or two paragraphs describing why you should be selected for this program. Include what you expect to gain, how you will make use of this experience, and what strengths you bring to introducing information technology skills (GIS) and authentic environmental science investigations to your classes.

## MAPPING & MONITORING MARYLAND STREAMS (MAMMS) AGREEMENT TO PARTICIPATE

### PRINCIPAL'S AGREEMENT

I understand that this teacher has applied for the Mapping and Monitoring Maryland Streams (MAMMS) Project with the UMCES Appalachian Laboratory Environmental Science Education program. I agree to support this teacher, as they integrate a GIS-based environmental lesson in their curriculum in the 2005-2006 academic year.

Principal Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### TEACHER'S AGREEMENT

If selected, I agree to the following:

- Participate in two teacher workshops
  - Sat Introductory Workshop May 14 2005 (Harford Glen EE Center, Bel Air, MD)
  - Mon-Fri Workshop June 27-July 1 2005 (Harford Glen EE Center, Bel Air, MD)
- Complete online activities and participate in online discussions (12 hours in June 2005)
- Adapt and implement at least one MAMMS lesson during the 2005-2006 academic year

I will receive a stipend (\$600), meals/lodging for the weeklong workshop, and classroom materials. I may also receive 2 MDSE or graduate credit hours (stipend may be applied to tuition). I understand that the credits and a portion of my stipend will be withheld if I do not complete the entire program.

Teacher Signature: \_\_\_\_\_ Date: \_\_\_\_\_